

AMENDMENTS TO THE CLAIMS

1.-63. (Canceled)

64. (New) Apparatus for monitoring the status of a horse, wherein the apparatus includes a processing system adapted to:

- (a) receive, from a first sensor formed from a detector and a processing module, indicating data indicative of the heart rate of the horse;
- (b) receive, from a second sensor, position data indicative of the position of the horse;
- (c) determine from the position data, movement data indicative of the rate of movement of the horse; and,
- (d) determine the health status indicator of the horse in accordance with a predetermined algorithm, the predetermined algorithm defining a relationship between the heart rate and the rate of movement of the horse, wherein the predetermined algorithm includes:
 - (i) determining at least a low heart rate during low speed exercise;
 - (ii) determining a number of heart rates during high speed exercise;
 - (iii) performing linear regression to calculate a linear regression line;
 - (iv) calculating, using the linear regression line, a velocity, wherein the velocity is at least one of:
 1. a heart rate of 200 beats per minute (V200); and,
 2. HRmax (VHRmax); and,
 - (v) determining a fitness indicator in accordance with the velocity calculated.

65. (New) Apparatus according to claim 64, wherein the low heart rate is determined during trotting.

66. (New) Apparatus according to claim 65, wherein the low heart rate is determined after the horse has been trotting for at least three minutes.

67. (New) Apparatus according to claim 64, wherein the apparatus is further configured to delete all outlier values by at least one of:

- (a) deleting all results with a velocity of less than 40 kph;

(b) deleting all results during a period after exercise (from the time of occurrence of HRmax);

(c) deleting all data equal to at least one of:

(i) HRmax;

(ii) HRmax-1;

(iii) HRmax-2; and,

(iv) HRmax-3;

(d) deleting all data where there has been an increase in velocity, but that increase was not accompanied by an increase in heart rate; and

(e) deleting any data points where the heart rate that is more than 10 beats per minute above the regression line at such a speed, and recalculate the regression line if such outliers are deleted.

68. (New) Apparatus according to claim 64, wherein the health status indicator includes at least one of the horse's: (a) heart rate; (b) blood pressure; (c) temperature; breathing rate; (d) blood flow rate; and, (e) blood oxygenation levels.

69. (New) Apparatus according to claim 64, wherein the first sensor is positioned in a blanket.

70. (New) Apparatus according to claim 69, wherein a battery is connected to the first and second sensors and to a first part of an inductive coupling, provided in a recess in the processing module and wherein, in use, the battery is recharged by having the first part of the inductive coupling cooperate with a second part of the inductive coupling provided in a protrusion forming part of a hanging mechanism, the second part being coupled to an external power supply to thereby allow the battery to be charged when the blanket is hung on the hanging mechanism.

71. (New) Apparatus of claim 64, wherein the processing module is coupled to a display, the display being adapted to provide information to a rider in accordance with at least one of the indicating data and the position data.
72. (New) Apparatus of claim 71, and wherein the display is adapted to be mounted on a bridle.
73. (New) Apparatus according to claim 71, wherein at least one of an antenna and the display is coupled to a rider in use, the apparatus further including a cable for connecting the module and the at least one antenna and display, the cable including a connector which is adapted to disengage if the rider falls.
74. (New) Apparatus according to claim 72, wherein the display is wirelessly mounted on the bridle.
75. (New) Apparatus according to claim 64, wherein the second sensor is a global positioning system sensor.
76. (New) Apparatus according to claim 69, wherein the second sensor is adapted to be worn by a rider in use, and wherein the blanket further includes a connector for coupling the second sensor to the blanket.
77. (New) Apparatus according to claim 69, wherein the second sensor is provided in the blanket.
78. (New) Apparatus according to claim 69, wherein the blanket further includes a power supply coupled to the first and second sensors.
79. (New) Apparatus according to claim 78, wherein the power supply includes at least one battery connected to a first part of an inductive coupling, and wherein the battery is recharged by connecting the first part of the inductive coupling to a second part of the inductive coupling, the second part being coupled to the power supply.

80. (New) Apparatus according to claim 69, wherein the blanket further includes a communications device coupled to the first and second sensors to thereby transfer at least one of the indicating data and position data to a remote computer system.
81. (New) Apparatus according to claim 69, wherein the blanket further includes a store coupled to the first and second sensors to thereby store at least one of the indicating and position data to a remote computer system.
82. (New) Apparatus according to claim 69, wherein the first sensor is a heart rate sensor and wherein the blanket includes at least one electrode coupled to the first sensor and positioned so as to be in contact with the horse.
83. (New) Apparatus according to claim 82, wherein the blanket includes at least one wire embedded in the blanket, the wire being adapted to connect the first sensor to the at least one electrode.
84. (New) Apparatus according to claim 83, wherein the blanket is a woven blanket and wherein the wire is integrated within the weave of the blanket.
85. (New) Apparatus according to claim 69, wherein the first sensor is removably mounted to a pouch, the pouch including one or more connectors adapted to cooperate with corresponding detectors provided on the sensor, to thereby couple the sensor to the blanket.
86. (New) Apparatus according to claim 64, wherein the processing system includes a communications device for receiving the indicating and position data.
87. (New) Apparatus according to claim 64, wherein the linear regression line is determined in accordance with: $HR=a+bV$, where HR=heart rate; a=constant; b=constant; and, V=velocity.